

Work Order ID 121209

\*121209\*

Ship Friday  
Page 1

June-18-14 8:45:52 AM

Item ID: D350-591-121

Accept

\*N9000040100\*

Setup Start \*NS1\*

Revision ID:

Item Name: Heli-Access-Step™ LH

Stop \*NS2\*

Start Date: 6/18/14

Start Qty: 5.00

\*5\*

Cust Item ID:

Required Date: 6/19/14

Req'd Qty: 5.00

\*5\*

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start \*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D2351-041

Rev E

000

Document Control

0.00

\*100\*

DC

DOCUMENT CONTROL

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile and type labels as per PPP D350-591-121 CHG005

DAS  
06  
9-89

JUN 20 2014

110

0.00

\*110\*

Large Fab

Large Fab

Memo

0.00

Large Fab

1-Cut D2244-116 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

3-Deburr

5

DHC 14-6-18

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: skt Date: 14/07/11QA Closed: skt Date: 14/7/13

Work Order: <u>121209-1</u>	<b>DISPOSITION</b> Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>			
Part No. <u>D350-591-121</u>		Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>
NCR No. <u>14-4000</u>		Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>
		Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>
		Large Fab <input checked="" type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	14-06-13			-operator cut angle on wrong side of step	DAS 16 9-89	scrap + replace D2244-116 <u>B80803</u>	DNC 14-6-13	14-06-13 DAS 9 9-89	DAS 16 9-89
Equip/Tooling									
Operator		110	1						
Material									
Setup									
Other									
Process				R.C. operator not paying attention to drawing	032042 14/6/13				032042 14/6/13
Supplier									
Training									
Unapproved									

## FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabelled <input checked="" type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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# Work Order ID 121209

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**\*121209\***

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Item ID: D350-591-121

Accept

**\*N9000040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Heli-Access-Step™ LH

Stop **\*NS2\***

Start Date: 6/18/14 Start Qty: 5.00 **\*5\***

Cust Item ID:

Required Date: 6/19/14 Req'd Qty: 5.00 **\*5\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	BENDING MACHINE - SKIDTUBES	0.00							
<b>*120*</b> CNC Bend I	<b>Memo</b>	0.00							
CNC Delta 190 Bender	Bend as per Dwg D2351-041 using CNC Bender 1 and Folio FT011. Use Bend Program D2351-041.								
	***BUFF AND REMOVE BENDING MARKS WITHIN .005", if deeper see engineer***								
130	QC5- Inspect part completeness to step on W/O	0.00							
<b>*130*</b> QC	<b>Memo</b>	0.00							
Quality Control									

*DC 14/06/18*

*DD 14-6-18*

**DAS  
03  
9-89**

# Work Order ID 121209

June-18-14 8:45:52 AM

**\*121209\***

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Item ID: D350-591-121

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Heli-Access-Step™ LH

Start Date: 6/18/14 Start Qty: 5.00

**\*5\***

Cust Item ID:

Required Date: 6/19/14 Req'd Qty: 5.00

**\*5\***

Customer:

Reference:

Run Start

**\*NR1\***

Stop

**\*NR2\***

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140

**\*140\***

Large Fab

Large Fab

Large Fab

Memo

1-Bevel Fwd and Aft end for welding

2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033  
A/RAluminum Rod 128385

3-Do not Grind Flush

150

**\*150\***

QC

Quality Control

QC9- Inspect visual per QSI004- Fusion Welds

Memo

QC5- Inspect part completeness to step on W/O

Memo

160

**\*160\***

QC

Quality Control

1  $\phi$  14.6.18

1x **DAS 43 9-89** 14.6.18

1x **DAS 43 9-89** 14.6.18



# Work Order ID 121209

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Item ID: D350-591-121

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Heli-Access-Step™ LH

Start Date: 6/18/14 Start Qty: 5.00

**\*5\***

Cust Item ID:

Required Date: 6/19/14 Req'd Qty: 5.00

**\*5\***

Customer:

Reference:

Run Start

**\*NR1\***

Stop

**\*NR2\***

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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170

Chemical Conversion Coat per QSI005 4.1

0.00

**\*170\***

HandFinish

Memo

0.00

Hand Finishing

180

QC7-Inspect Chemical Conversion Coat

0.00

**\*180\***

QC

Memo

0.00

Quality Control

190

Large Fab

0.00

**\*190\***

Large Fab

Memo

0.00

Large Fab

1-Rivet Leg Assembly as per Dwg D2351

2-Weld Fwd End Plate per QSI 004 & Dwg D2351  
A/RAluminum Rod 125091

3-Grind end cap flush per dwg D2351

1 76 14-6-19

1 14-06-19

1 14-06-19

DAS  
19  
9-89

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Item ID: D350-591-121 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Heli-Access-Step™ LH  
 Start Date: 6/18/14 Start Qty: 5.00 \*5\* Cust Item ID:  
 Required Date: 6/19/14 Req'd Qty: 5.00 \*5\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	QC10- Inspect visual per QSI004- ground welds	0.00							
*220*									
QC	Memo	0.00							
Quality Control									
230	QC5- Inspect part completeness to step on W/O	0.00							
*230*									
QC	Memo	0.00							
Quality Control									
240	Chemical Conversion Coat per QSI005 4.1	0.00							
*240*									
HandFinish	Memo	0.00							
Hand Finishing									

① 14-06-19

① 14-06-19

1 7/6/14-6-19

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0.00

1  $\phi$  14-6-19

16th of 11 vlogs

①

DAS 34 9-89



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Item ID: D350-591-121 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Heli-Access-Step™ LH  
 Start Date: 6/18/14 Start Qty: 5.00 \*5\* Cust Item ID:  
 Required Date: 6/19/14 Req'd Qty: 5.00 \*5\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280	Pick Kit	0.00							
*280*									
Packaging	Memo	0.00				/X		DAS 28 9-89	JUN 19 2014
Packaging									
290	QC4- 100% Inspect kits for completeness	0.00							
*290*									
QC	Memo	0.00				X			
Quality Control									
300	Packaging	0.00							
*300*									
Packaging	Memo	0.00				X			
Packaging	Identify and pack for shipping as per PPP D350-591-121								
	Location: _____								
	PPP Rev: _____								

JUN 20 2014

DAS  
06  
9-89

JUN 20 2014

DAS  
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Ship

DAS  
31  
9-89

# Work Order ID 121209

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June-18-14 8:45:52 AM

Item ID: D350-591-121

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Heli-Access-Step™ LH

Start Date: 6/18/14 Start Qty: 5.00 \*5\*

Cust Item ID:

Required Date: 6/19/14 Req'd Qty: 5.00 \*5\*

Customer:

Reference:

Run Start \*NR1\*

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID Tool # Plan  
Code Accept Reject Reject Insp.  
Qty Qty Number Stamp

310

QC21- Final Inspection - Work Order Release

0.00

\*310\*

QC

Memo

0.00

Quality Control

14/6/20  
①  
14-6-20



# Picklist Print

June-18-14 8:45:50 AM

Page 1

Work Order ID: 121209

**\*121209\***

Parent Item: D350-591-121

**\*D350-591-121\***

Parent Item Name: Heli-Access-Step™ LH

Start Date: 6/18/14

Required Date: 6/19/14

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP Rev:E02.10.21Re-format; Incorporated D2351-041 IPPKJ/RF  
IPP rev. F 06.02.23 added grinding EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2244-116		Manufactured	No			110	Each	22.5000	0.5	3			
<b>*D2244-116*</b>									<b>**</b>				
STEP EXTRUSION													

Location	Loc Qty	Loc Code
WA003	22.4999632	
60307	9	
80803	9	
89954	4.5	

D2850-1		Manufactured	No			140	Each	2.0000	1	5			
<b>*D2850-1*</b>									<b>**</b>				
End Bracket													

Location	Loc Qty	Loc Code
WA003	2	
111633	2	

D2582		Manufactured	No			190	Each	8.0000	1	5			
<b>*D2582*</b>									<b>**</b>				
Hi-Skid Step Leg Ass'Y													

Location	Loc Qty	Loc Code
WA003	8	
106091	2	
111490	6	

# Picklist Print

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Work Order ID: 121209

**\*121209\***

Parent Item: D350-591-121

**\*D350-591-121\***

Parent Item Name: Heli-Access-Step™ LH

Start Date: 6/18/14

Required Date: 6/19/14

Start Qty: 5.00

Required Qty: 5.00

MS20600-AD4W3

Purchased

No

190

Each

543.0000

16

80

**\*MS20600-AD4W3\***

Cherry Rivers

\*\*

*14-06-19*

Location

Loc Qty

Loc Code

ST

480

m129278

480

WA003

63

m127476

63

D2673-34

Manufactured

No

210

Each

99.0000

1

5

**\*D2673-34\***

End Plate

\*\*

*14-06-19*

Location

Loc Qty

Loc Code

WA003

99

113204

38

117775

61

AN4-16A

Purchased

No

290

Each

206.0000

2

10

**\*AN4-16A\***

Belt

\*\*

DAS  
28  
9-89

JUN 19 2014

Location

Loc Qty

Loc Code

FG

5

121541

5

ST357

51

M128324

19

M128978

32

ST515

150

M128813

150

DAS  
06  
9-89

DAS  
31  
9-89

*2x*

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Shop Packet Print

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# Picklist Print

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Work Order ID: 121209

\*121209\*

Parent Item: D350-591-121

\*D350-591-121\*

Parent Item Name: Heli-Access-Step™ LH

Start Date: 6/18/14

Required Date: 6/19/14

Start Qty: 5.00

Required Qty: 5.00

D2856-400

Manufactured No

290 f

357.2000 0.6

\*\*

DAS  
28  
9-89

JUN 19 2014

\*D2856-400\*

Abrasion Step 4" Wide (Per Foot)

cut (1) at 7.20"

DAS  
06  
9-89

cut (1) at 7.20"

NAS1149D0463J

Purchased No

290 Each

8,655.000 6

\*\*

DAS  
28  
9-89

\*NAS1149D0463.J\*

WASHER

DAS  
06  
9-89

## Location

## Loc Qty

## Loc Code

ST403	355.2	
112524	139.2	
117887	216	
ST408	2	
109578	2	

0.6

DAS  
31  
9-89

## Location

## Loc Qty

## Loc Code

ST277	5000	
M129390	5000	
ST510a	3655	
16941	8	
M126221	20	
M127813	22	
M127904	1993	
M128591	112	
M128995	1500	

6x

DAS  
31  
9-89

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Shop Packet Print

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Work Order ID: 121209

Parent Item: D350-591-121

Parent Item Name: Heli-Access-Step™ LH

\*121209\*

\*D350-591-121\*

Start Date: 6/18/14

Required Date: 6/19/14

Start Qty: 5.00

Required Qty: 5.00

D2230-1  
\*D2230-1\*  
Mounting Leg

Manufactured No

290 Each

441.0000 1

\*\*

DAS  
28  
9-89

JUN 19 2014

DAS  
06  
9-89

Location

Loc Qty

Loc Code

FG

4

84136

4

ST469

21

101834

1

110834

20

ST470

416

110834

12

113437

124

113438

1

115306

119

116380

160

DAS  
31  
9-89

AN3-37A  
\*AN3-37A\*  
Bolt

Purchased No

290 Each

90.0000 2

\*\*

DAS  
28  
9-89

DAS  
06  
9-89

Location

Loc Qty

Loc Code

FG

10

119086

10

ST353

80

123355

80

DAS  
31  
9-89

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# Picklist Print

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Work Order ID: 121209

Parent Item: D350-591-121

Parent Item Name: Heli-Access-Step™ LH

**\*121209\***

**\*D350-591-121\***

Start Date: 6/18/14

Required Date: 6/19/14

Start Qty: 5.00

Required Qty: 5.00

MS21042L3

Purchased

No

290

Each

5,872.000

2

102

**\*MS21042L3\***

Nut

\*\*

DAS  
28  
9-89

JUN 19 2014

DAS  
06  
9-89

## Location

## Loc Qty

## Loc Code

ST314

164

108816

9

M126333

55

M127410

13

M127831

39

M128401

48

ST506

955

123900

955

ST509

4753

M127831

2

M128754

4751

2x  
153

AN4-13A

Purchased

No

290

Each

1,242.000

3

**\*AN4-13A\***

Bolt

\*\*

DAS  
28  
9-89

DAS  
06  
9-89

## Location

## Loc Qty

## Loc Code

FG

20

122808

20

GA

14

m125709

14

ST515

1208

m127432

36

m127817

26

m128403

146

m128739

1000

3x

DAS  
31  
9-89

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# Picklist Print

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Parent Item: D350-591-121

Parent Item Name: Heli-Access-Step™ LH

\*121209\*

\*D350-591-121\*

Start Date: 6/18/14

Required Date: 6/19/14

Start Qty: 5.00

Required Qty: 5.00

MS210421A

Purchased

No

290

Each

5,707.000

3

18 3

\*MS210421 4\*

Locknut

\*\*

DAS  
28  
9-89

JUN 19 2014

DAS  
06  
9-89

## Location

## Loc Qty

## Loc Code

ST305

1000

m129472

1000

ST314

44

m126015

12

m126275

32

ST509

4652

m127255

71

m127813

976

m128300

80

m128798

3525

3x

ST518

11

m127376

11

D2230-3

Manufactured

No

290

Each

284.0000

1

1

\*D2230-3\*

Mounting Lug

\*\*

DAS  
28  
9-89

DAS  
06  
9-89

## Location

## Loc Qty

## Loc Code

FG

7

109344

4

89045

3

ST

159

116378

159

ST469

118

108668

1

109344

3

114151

2

114921

112

1x

DAS  
31  
9-89

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Work Order ID: 121209

Parent Item: D350-591-121

Parent Item Name: Heli-Access-Step™ LH

**\*121209\***

**\*D350-591-121\***

Start Date: 6/18/14

Required Date: 6/19/14

Start Qty: 5.00

Required Qty: 5.00

D2732-030

Manufactured No

290

Each

166.0000

2

102

\*\*

DAS  
28  
9-89

JUN 19 2014

**\*D2732-030\***

Rubber Cushion (Replaces P/N G13013-4)

DAS  
06  
9-89

## Location

## Loc Qty

## Loc Code

FG

97

107346  
94725

80

17

ST409

65

112139

64

114485

1

ST410

4

107346

4

2x

cut (2) at 3.00"

NAS1149D0363J

Purchased

No

290

Each

3,427.000

4

2x 4

\*\*

DAS  
28  
9-89

**\*NAS1149D0363J\***

Washer

DAS  
06  
9-89

## Location

## Loc Qty

## Loc Code

GA

23

124392

23

ST510a

3404

109061

9

m126319

6

m128429

3389

4x

DAS  
31  
9-89

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Shop Packet Print

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DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE NTS
A	95.02.15	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

**D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST**

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

\*cut per drawing

2/10/21/209

RELEASED  
05.11.28 #

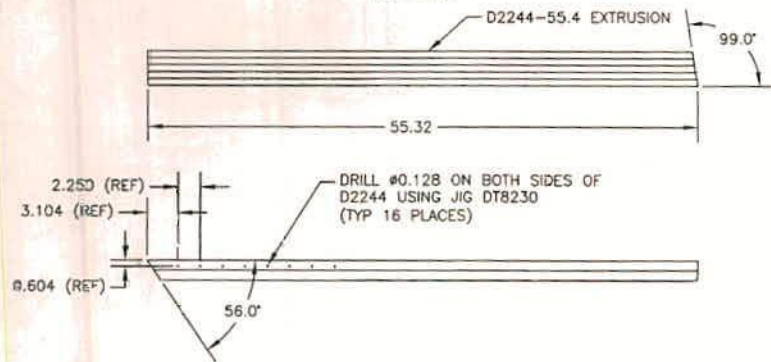
PH  
ECN 1105  
UNDER REVIEW  
07.11.29 #  
PER NCR# 265

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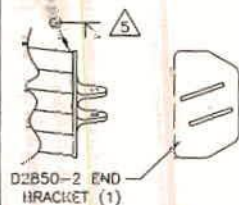
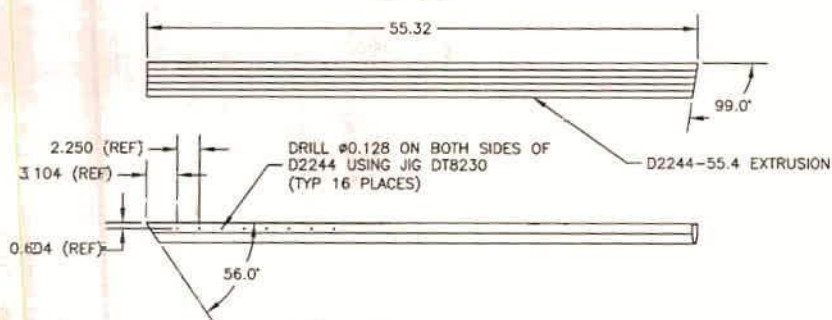
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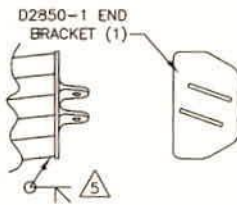
D2351-2 CUTTING/DRILLING DETAIL  
RIGHT STEP



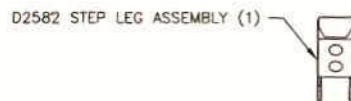
D2351-1 CUTTING/DRILLING DETAIL  
LEFT STEP



DETAIL A  
SCALE: 1:4



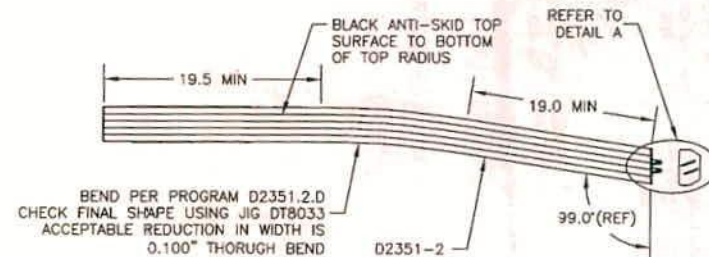
DETAIL B  
SCALE: 1:4



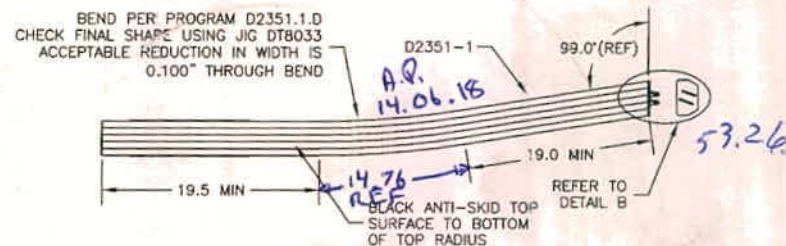
GENERAL NOTES

- 1) WELD PER DART QSI 004
  - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
  - 3) ALL DIMENSIONS ARE IN INCHES
  - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) CHAMFER D2244 EXTRUSION 0.075"x45° BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

D2351-042 BENDING/ASSEMBLY DETAIL  
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL  
LEFT STEP



RELEASED  
05.11.28

UNDER REVIEW

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DESIGN	DRAWN BY	DART	DART AEROSPACE LTD. HAMPSHIRE, ENGLAND, CANADA
KE	PH	DRAWING NO.	REV. E
CHECKED	APPROVED	D2351	SHEET 2 OF 2
DATE	TITLE	SCALE	
05.11.14	HIGH FLOAT STEP ASSEMBLY	1:12	



## 5. PARTS LIST

Qty -111A	Qty -113	Qty -115	Qty -117A	Qty -119	Qty -133	Part Number	Description
X						D350-591-111A	<i>Heli-Access-Step</i> ™, Long Step – High Skid
	X					D350-591-113	<i>Heli-Access-Step</i> ™, Short Step – High Skid
		X				D350-591-115	<i>Heli-Access-Step</i> ™, Short Step – Low Skid
			X			D350-591-117A	<i>Heli-Access-Step</i> ™, Pre-Flight Step
				X		D350-591-119	<i>Heli-Access-Step</i> ™, Long Step – Low Skid
					X	D350-591-133	<i>Heli-Access-Step</i> ™, Aft Maintenance Step
	1					D2310	STEP ASSEMBLY (HIGH-SHORT)
1						D2311	STEP ASSEMBLY (HIGH-LONG)
		1				D2354	STEP ASSEMBLY (LOW-SHORT)
				1		D2355	STEP ASSEMBLY (LOW-LONG)
					1	D2946-041	STEP ASSEMBLY (MAINTENANCE)
4	2	2	2	2		D2171	CLAMP
4	2	2	2	2		D2182B035	CUSHION
					4	D2230-1	MOUNTING LUG
					4	D2230-3	MOUNTING LUG
8	4	4	4	4		D2274	RADIUS BLOCK
			1			D2362-041	SUPPORT BRACKET
2	1			1		D2362-3	SUPPORT BRACKET
		1				D2362-5	SUPPORT BRACKET
2	1	1	1	1	2	D2856-400-720	ABRASION STRIP
					1	D2945	MOUNTING PLATE
2	2	2		2		AN3-37A	BOLT
					2	AN4-7A	BOLT
					4	AN4-11A	BOLT
					8	AN4-14A	BOLT
		4				AN4-16A	BOLT
8	4			4		AN4-20A	BOLT
1	1	1	4	1		AN4-22A	BOLT
4	4	4		4		AN960JD10	WASHER
10	6	2	4	6	14	AN960JD416	WASHER
		4				AN960JD416L	WASHER
2	2	2		2		MS21042L3	NUT
9	5	5	4	5	14	MS21042L4	NUT

Qty -121	Qty -122	Qty -123	Qty -124	Part Number	Description
X				D350-591-121	<i>Heli-Access-Step</i> ™, Short Step – High Skid, LH
	X			D350-591-122	<i>Heli-Access-Step</i> ™, Short Step – High Skid, RH
		X		D350-591-123	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, LH
			X	D350-591-124	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, RH
1				D2351-041	STEP ASSEMBLY (HIGH-SHORT, LH)
	1			D2351-042	STEP ASSEMBLY (HIGH-SHORT, RH)
		1		D2356-041	STEP ASSEMBLY (LOW-SHORT, LH)
			1	D2356-042	STEP ASSEMBLY (LOW-SHORT, RH)
1	1	1	1	D2230-1	MOUNTING LUG
1	1	1	1	D2230-3	MOUNTING LUG
1	1	1	1	D2856-400-720	ABRASION STRIP
2	2	2	2	AN3-37A	BOLT
3	3	3	3	AN4-13A	BOLT
4	4	4	4	AN960JD10	WASHER
6	6	6	6	AN960JD416	WASHER
2	2	2	2	MS21042L3	NUT
3	3	3	3	MS21042L4	NUT

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Revision: G

Date: 08.10.06



# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G OR EARLIER  
AND  
INSTRUCTIONS OF CONTINUED AIRWORTHINESS ICA-D350-591 REV. 2 OR EARLIER  
REF CANADIAN STC: SH92-6  
REF FAA STC: SH967NE

For D350-591-121/-122/-123/-124/-133 steps, customers have the option of installing D2732-030 cushions under the D2230-1/-3 clamps to accommodate varying cross-tube diameters and to improve fit. It is also acceptable to use longer or shorter AN4 bolts, and/or extra AN960JD416 washers under the nut to ensure 1.5 to 4 threads in safety. See Figure 1 on sheet 2 of this service instruction for reference.

For D350-591-121/-122 steps at CHG 005, D350-591-123/-124 steps at CHG 004, and D350-591-133 steps at CHG 003, the parts list of D350-591 Rev. G and ICA-D350-591 Rev. 2 is amended as follows:

## ADD:

Qty -121	Qty -122	Qty -123	Qty -124	Qty -133	Part Number	Description
X					D350-591-121	<i>Heli-Access-Step</i> ™, Short Step – High Skid, LH
	X				D350-591-122	<i>Heli-Access-Step</i> ™, Short Step – High Skid, RH
		X			D350-591-123	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, LH
			X		D350-591-124	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, RH
				X	D350-591-133	<i>Heli-Access-Step</i> ™, Aft Maintenance Step
2	2	2	2	8	D2732-030	CUSHION
2	2	2	2	8	AN4-16A	BOLT

The DSI-9459-011 kit is available for customers with earlier model D350-591-121/-122/-123/-124 steps. Longer AN4 bolts are provided to fasten the clamps. The DSI-9459-013 kit is available for customers with earlier model D350-591-133 steps.






Qty -011	Qty -013	Part Number	Description
X		DSI-9459-011	Rubber Cushion Kit (for -121/-122/-123/-124 steps)
	X	DSI-9459-013	Rubber Cushion Kit (for -133 steps)
2	8	D2732-030	CUSHION
2	8	AN4-16A	BOLT

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

APPROVED

BY:   
D. SHEPHERD (DE # 02)

DATE: 09.06.24  
CERT. NO.: SH92-6  
ISSUE NO.: 11

B	AN4-16A WAS -17A FOR -013/-133 KIT	CP	09.06.24
A	NEW ISSUE	CP	09.04.17
REV.	DESCRIPTION	BY	DATE
DESIGN		<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED		DRAWING NO.	REV. B
MFG. APPR.	N/A	DSI 9459	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		OPTIONAL CLAMP MODIFICATIONS	NTS
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Work Order ID 121209

\*121209\*

Ship Friday  
Page 1

June-18-14 8:45:52 AM

Item ID: D350-591-121  
Revision ID:  
Item Name: Heli-Access-Step™ LH  
Start Date: 6/18/14 Start Qty: 5.00  
Required Date: 6/19/14 Req'd Qty: 5.00  
Reference:  
Accept \*N900040100\* Setup Start \*NS1\*  
Stop \*NS2\*  
Cust Item ID:  
Customer:  
Run Start \*NR1\*  
Stop \*NR2\*  
Approvals: Process Plan: W Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2351-041	Rev E								
180	Document Control	0.00							
*100*	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc. Control -USB or Paperwork	Photocopy bluefile and type labels as per PPP D350-591-121 CHG005								

0.00

0.00

D2244-116 extrusion to 55.32" long as per Dwg D2351 using cutting  
etup DT8185-G

extrusion per Dwg D2351 using Jig DT8230 for rivets.

urr

AND

QC-Z

QC-8

